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| **COVERING BOTH GLE’S AND CCSS**  **(State correlation is not a perfect match-What makes them the same….what makes them different?)**  1.2.4 Write expressions, formulas, equations or inequalities using variables to represent mathematical relationships and solve problems.  **CC.7.RP.2c** Represent proportional relationships by equations. For example, if total cost *t* is proportional to the number *n* of items purchased at a constant price *p*, the relationship between the total cost and the number of items can be expressed as *t* = *pn*.  **CC.7.EE.2** Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. For example, *a* + 0.05*a* = 1.05*a* means that “increase by 5%” is the same as “multiply by 1.05.”  **CC.7.EE.4a** Solve word problems leading to equations of the form *px* + *q* = *r* and *p*(*x* + *q*) = *r*, where *p*, *q*, and *r* are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. For example, The perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?  1.3.7 Evaluate and simplify algebraic expressions, equations and formulas using algebraic properties (i.e., commutative, associative, distributive, inverse operations, and the additive and multiplicative identities) and the order of operations.  **CC.7.EE.1** Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.  1.3.8 Solve real world problems using a variety of algebraic methods including tables, graphs, equations and inequalities.  **CC.7.EE.3** Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations as strategies to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.  **CC.7.EE.4b** Solve word problems leading to inequalities of the form *px* + *q* > *r* or *px* + *q* < *r*, where *p*, *q*, and *r* are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem. For example, As a salesperson, you are paid $50 per week plus $3 per sale. This week you want your pay to be at least $100. Write an inequality for the number of sales you need to make, and describe the solutions.  2.1.5 Understand the relationship between squares and square roots.  **CC.8.EE.2** Use square root and cube root symbols to represent solutions to equations of the form x2 = p and x3 = p, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that √2 is irrational.  2.2.8 Apply the order of operations and algebraic properties; i.e., commutative, associative, distributive, inverse operations, and the additive and multiplicative identities; to write, simplify, e.g., 4(3½) = 4 (3) + 4 (½) = 12 + 2 = 16, and solve problems, including those with parentheses and exponents.  **CC.7.NS.1d** Apply properties of operations as strategies to add and subtract rational numbers.  **CC.7.NS.2a** Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (-1)(-1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. |
| **COVERING BOTH GLE’S AND CCSS AND SCIENCE INTEGRATION** |
| **GLE’s but not CCSS**  1.2.4 Write expressions, formulas, equations or inequalities using variables to represent mathematical relationships and solve problems.  **CC.6.EE.6** Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.  **CC.6.EE.7** Solve real-world and mathematical problems by writing and solving equations of the form *x* + *p* = *q* and *px* = *q* for cases in which *p*, *q* and *x* are all nonnegative rational numbers.  **CC.9-12.A.SSE.1b** Interpret complicated expressions by viewing one or more of their parts as a single entity. For example, interpret *P*(*1*+*r*)*n* as the product of *P* and a factor not depending on *P*.  **CC.9-12.A.SSE.1a** Interpret parts of an expression, such as terms, factors, and coefficients.  1.3.7 Evaluate and simplify algebraic expressions, equations and formulas using algebraic properties (i.e., commutative, associative, distributive, inverse operations, and the additive and multiplicative identities) and the order of operations.  **CC.6.EE.2c** Evaluate expressions by substituting values for their variables. Include expressions that arise from formulas in real-world problems. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations). For example, use the formulas V = s^3 and A = 6 s^2 to find the volume and surface area of a cube with sides of length s = 1/2.  **CC.6.EE.3** Apply the properties of operations as strategies to generate equivalent expressions. For example, apply the distributive property to the expression 3(2 + x) to produce the equivalent expression 6 + 3x; apply properties of operations to y + y + y to produce the equivalent expression 3y.  **CC.6.EE.4** Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them). For example, the expressions y + y + y and 3y are equivalent because they name the same number regardless of which number y stands for.  1.3.9 Write, model and solve one- and two-step (e.g., 2*x* + 3 = 11) equations using a variety of methods such as tables, concrete models and the Properties of Equality and justify the solution.  1.3.8 Solve real world problems using a variety of algebraic methods including tables, graphs, equations and inequalities.  **CC.6.EE.6** Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.  **CC.6.EE.7** Solve real-world and mathematical problems by writing and solving equations of the form *x* + *p* = *q* and *px* = *q* for cases in which *p*, *q* and *x* are all nonnegative rational numbers  **CC.6.EE.8** Write an inequality of the form x > c or x < c to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the form x > c or x < c have infinitely many solutions; represent solutions of such inequalities on number line diagrams.  2.2.13 Compare the magnitude of and compute with whole numbers expressed as positive powers of 10.  **CC.5.NBT.2** Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use positive integer exponents to denote powers of 10.  2.1.6 Read, write, compare and solve problems with whole numbers in scientific notation and vice versa.  **CC.8.EE.3** Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. For example, estimate the population of the United States as 3 × 108 and the population of the world as 7 × 109, and determine that the world population is more than 20 times larger.  2.2.14 Develop and describe strategies for estimating and multiplying whole numbers expressed in scientific notation.  **CC.8.EE.3** Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. For example, estimate the population of the United States as 3 × 108 and the population of the world as 7 × 109, and determine that the world population is more than 20 times larger  **CC.8.EE.4** Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology.  2.2.15 Estimate and solve problems containing whole numbers expressed in expanded notation, powers of 10 and scientific notation.  **CC.8.EE.3** Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. For example, estimate the population of the United States as 3 × 108 and the population of the world as 7 × 109, and determine that the world population is more than 20 times larger.  **CC.8.EE.4** Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology.  2.1.4 Use patterns to compute with and write whole numbers and fractions as powers of whole numbers and vice versa, e.g., 22 = 4, 21 = 2, 20 = 1, 2-1 = ½, 2-2 = ¼.  **CC.8.EE.1** Know and apply the properties of integer exponents to generate equivalent numerical expressions. For example, 32 × 3(–5) = 3(–3) = 1/(33) = 1/27.  **CC.8.EE.2** Use square root and cube root symbols to represent solutions to equations of the form x2 = p and x3 = p, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that √2 is irrational.  2.2.8 Apply the order of operations and algebraic properties; i.e., commutative, associative, distributive, inverse operations, and the additive and multiplicative identities; to write, simplify, e.g., 4(3½) = 4 (3) + 4 (½) = 12 + 2 = 16, and solve problems, including those with parentheses and exponents.  **CC.6.NS.4** Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor. For example, express 36 + 8 as 4 (9 + 2). |
| **CCSS but not GLE’s** |